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| Substitute Form PTO-1449<br>(Modified)<br><br><b>Information Disclosure Statement<br/>by Applicant</b><br>(Use several sheets if necessary)<br><br>(37 CFR §1.98(b)) | U.S. Department of Commerce<br>Patent and Trademark Office | Attorney's Docket No.<br><b>08411-035001</b> | Application No.<br><b>10/607,631</b> |
|  | Applicant<br><b>F. Chris Minion et al.</b>                 |  |                                      |
|  | Filing Date<br><b>June 27, 2003</b>                        | Group Art Unit<br><b>1645</b>                |                                      |

**U.S. Patent Documents**

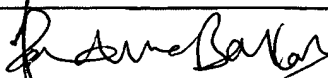
| Examiner Initial | Desig. ID | Document Number | Publication Date | Patentee        | Class | Subclass | Filing Date If Appropriate |
|------------------|-----------|-----------------|------------------|-----------------|-------|----------|----------------------------|
|                  | AA        | 5,580,859       | 12/3/96          | Felgner et al.  |       |          |                            |
|                  | AB        | 5,589,466       | 12/31/96         | Felgner et al.  |       |          |                            |
|                  | AC        | 5,703,055       | 12/30/97         | Felgner et al.  |       |          |                            |
|                  | AD        | 5,836,905       | 11/17/98         | Lemelson et al. |       |          |                            |
|                  | AE        | 6,162,435       | 12/19/00         | Minion et al.   |       |          |                            |

**Foreign Patent Documents or Published Foreign Patent Applications**

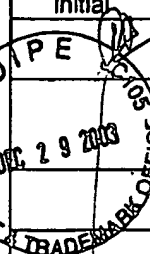
| Examiner Initial | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation |    |
|------------------|-----------|-----------------|------------------|--------------------------|-------|----------|-------------|----|
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|                  | AF        |                 |                  |                          |       |          |             |    |

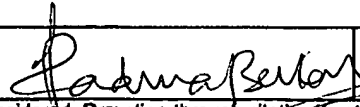
**Other Documents (include Author, Title, Date, and Place of Publication)**

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|------------------|-----------|--|
|                  | AG        | Bordier, "Phase Separation of Integral Membrane Proteins in Triton X-114 Solution," <u>J. Biol. Chem.</u> , 1981, 256:1604-1607  |
|                  | AH        | Cordwell et al., "Characterisation of basic proteins from <i>Spiroplasma melliferum</i> using novel immobilised pH gradients," <u>Electrophoresis</u> , 1997, 18:1393-1398   |
|                  | AI        | Djordjevic et al., "Serum and mucosal antibody responses and protection in pigs vaccinated against <i>Mycoplasma hyopneumoniae</i> with vaccines containing a denatured membrane antigen pool and adjuvant," <u>Aust. Vet. J.</u> , 1997, 75:504-511                           |
|                  | AJ        | Djordjevic et al., "An improved enzyme linked immunosorbent assay (ELISA) for the detection of porcine serum antibodies against <i>Mycoplasma hyopneumoniae</i> ," <u>Vet. Microbiol.</u> , 1994, 39:261-274   |
|                  | AK        | Dybvig and Yu, "Regulation of a restriction and modification system via DNA inversion in <i>Mycoplasma pulmonis</i> ," <u>Mol. Microbiol.</u> , 1994, 12:547-560   |
|                  | AL        | Friis, "Mycoplasmas Cultivated from the Respiratory Tract of Danish Pigs," <u>Acta Vet. Scand.</u> , 1971, 12:69-79  |
|                  | AM        | Glew et al., "pMGA Phenotypic Variation in <i>Mycoplasma gallisepticum</i> Occurs In Vivo and Is Mediated by Trinucleotide Repeat Length Variation," <u>Infect. Immun.</u> , 2000, 68:6027-6033  |
|                  | AN        | Goborn et al., "Sample Purification and Preparation Technique Based on Nano-scale Reversed-phase Columns for the Sensitive Analysis of Complex Peptide Mixtures by Matrix-assisted Laser Desorption/Ionization Mass Spectrometry," <u>J. Mass Spectrom.</u> , 1999, 34:105-116 |
|                  | AO        | Guerreiro et al., "New <i>Rhizobium leguminosarum</i> Flavonoid-Induced Proteins Revealed by Proteome Analysis of Differentially Displayed Proteins," <u>Mol. Plant Microbe Interact.</u> , 1997, 10:506-516   |
|                  | AP        | Hsu and Minion, "Molecular analysis of the p97 cilium adhesin operon of <i>Mycoplasma hyopneumoniae</i> ," <u>Gene</u> , 1998, 214:13-23   |
|                  | AQ        | Hsu and Minion, "Identification of the Cilium Binding Epitope of the <i>Mycoplasma hyopneumoniae</i> P97 Adhesin," <u>Infect. Immun.</u> , 1998, 66:4762-4766  |

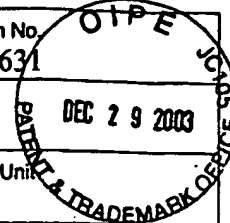
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| Substitute Form PTO-1449<br>(Modified)   | U.S. Department of Commerce<br>Patent and Trademark Office | Attorney's Docket No.<br>08411-035001 | Application No.<br>10/607,631 |
| Information Disclosure Statement<br>by Applicant<br>(Use several sheets if necessary)<br><br>(37 CFR §1.98(b)) |  | Applicant<br>F. Chris Minion et al.   |                               |
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| Other Documents (include Author, Title, Date, and Place of Publication)           |  |  |
|---|--|--|
| Examiner Initial  | Desig. ID  | Document   |
|  | AR   | Hsu et al., "Cloning and Functional Analysis of the P97 Swine Cilium Adhesin Gene of <i>Mycoplasma hyopneumoniae</i> ," <i>J. Bacteriol.</i> , 1997, 179:1317-1323   |
|   | AS   | Kim et al., "Identification and Mapping of an Immunogenic Region of <i>Mycoplasma hyopneumoniae</i> p65 Surface Lipoprotein Expressed in <i>Escherichia coli</i> from a cloned Genomic Fragment," <i>Infect. Immun.</i> , 1990, 58:2637-2643 |
|   | AT   | Laemmli, "Cleavage of Structural Proteins during the Assembly of the Head of Bacteriophage T4," <i>Nature</i> , 1970, 227:680-685  |
|   | AU   | Liu et al., "GAA Trinucleotide Repeat Region Regulates M9/pMGA Gene Expression in <i>Mycoplasma gallisepticum</i> ," <i>Infect. Immun.</i> , 2000, 68:871-876  |
|   | AV   | Luo and Lin, "Generation of Moderate Amounts of Polyclonal Antibodies in Mice," <i>BioTechniques</i> , 1997, 23:630, 632   |
|   | AW   | Lysnyansky et al., "Phenotypic Switching of Variable Surface Lipoproteins in <i>Mycoplasma bovis</i> Involves High-Frequency Chromosomal Rearrangements," <i>J. Bacteriol.</i> , 1996, 178:5395-5401   |
|   | AX   | Meier et al., "Immunodetection of Biotinylated Lymphocyte-Surface Proteins by Enhanced Chemiluminescence: A Nonradioactive Method for Cell Surface Protein Analysis," <i>Anal. Biochem.</i> , 1992, 204:220-226                              |
|   | AY   | Minion et al., "R1 Region of P97 Mediates Adherence of <i>Mycoplasma hyopneumoniae</i> to Swine Cilia," <i>Infect. Immun.</i> , 2000, 68:3056-3060   |
|   | AZ   | Noormohammadi et al., "A novel mechanism for control of antigenic variation in the haemagglutinin gene family of <i>Mycoplasma synoviae</i> ," <i>Mol. Microbiol.</i> , 2000, 35:911-923   |
|   | AAA  | Nouwens et al., "Complementing genomics with proteomics: The membrane subproteome of <i>Pseudomonas aeruginosa</i> PAO1," <i>Electrophoresis</i> , 2000, 21:3797-3809  |
|   | ABB  | Probert et al., "Mapping the Ligand-Binding Region of <i>Borrelia burgdorferi</i> Fibronectin-Binding Protein BBK32," <i>Infect. Immun.</i> , 2001, 69:4129-4133   |
|   | ACC  | Rabilloud et al., "Modified silver staining for immobilized pH gradients," <i>Electrophoresis</i> , 1992, 13:264-266   |
|   | ADD  | Rocha et al., "Identification and Characterization of a Novel Fibronectin-Binding Protein on the Surface of Group A Streptococci," <i>Infect. Immun.</i> , 1999, 67:2720-2728  |
|   | AEE  | Rosengarten and Wise, "Phenotypic Switching in Mycoplasmas: Phase Variation of Diverse Surface Lipoproteins," <i>Science</i> , 1990, 247:315-318   |
|   | AFF  | Sachse et al., "Epitope Mapping of Immunogenic and Adhesive Structures in Repetitive Domains of <i>Mycoplasma bovis</i> Variable Surface Lipoproteins," <i>Infect. Immun.</i> , 2000, 68:680-687   |
|   | AGG  | Scarman et al., "Identification of novel species-specific antigens of <i>Mycoplasma hyopneumoniae</i> by preparative SDS-PAGE ELISA profiling," <i>Microbiology</i> , 1997, 143:663-673  |
| AHH   | Schorey et al., "Characterization of the fibronectin-attachment protein of <i>Mycobacterium avium</i> reveals a fibronectin-binding motif conserved among mycobacteria," <i>Mol. Microbiol.</i> , 1996, 21:321-329 |  |
| AII   | Simecka et al., "Mycoplasma Diseases of Animals," <i>Mycoplasmas: Molecular Biology and Pathogenesis</i> , 1992, Maniloff et al. (eds.), Washington, D.C., American Society for Microbiology, pp. 391-415          |  |
| AJJ   | Southern, "Detection of Specific Sequences Among DNA Fragments Separated by Gel Electrophoresis," <i>J. Mol. Biol.</i> , 1975, 98:503-517  |  |

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| Substitute Form PTO-1449<br>(Modified)   | U.S. Department of Commerce<br>Patent and Trademark Office | Attorney's Docket No.<br>08411-035001 | Application No.<br>10/607,631 |
| <b>Information Disclosure Statement</b><br><b>by Applicant</b><br>(Use several sheets if necessary)<br>(37 CFR §1.98(b)) |  | Applicant<br>F. Chris Minion et al.   |                               |
|  |  | Filing Date<br>June 27, 2003          | Group Art Unit<br>1645        |



| Other Documents (include Author, Title, Date, and Place of Publication) |           |   |
|---|-----------|---|
| Examiner Initial  | Desig. ID | Document  |
|   | AKK       | Stevens and Krause "Localization of the <i>Mycoplasma pneumoniae</i> Cytoadherence-Accessory Proteins HMW1 and HMW4 in the Cytoskeletonlike Triton Shell," <i>J. Bacteriol.</i> , 1991, 173:1041-1050   |
|   | ALL       | Strasser et al., "Cloning and Expression of a Species-Specific Early Immunogenic 36-Kilodalton Protein of <i>Mycoplasma hyopneumoniae</i> in <i>Escherichia coli</i> ," <i>Infect. Immun.</i> , 1991, 59:1217-1222  |
|   | AMM       | Talay et al., "Co-operative binding of human fibronectin to SfbI protein triggers streptococcal invasion into respiratory epithelial cells," <i>Cell Microbiol.</i> , 2000, 2:521-535   |
|   | ANN       | Thacker et al., "Potentiation of PRRSV pneumonia by dual infection with <i>Mycoplasma hyopneumoniae</i> ," <i>The Conference of Research Workers in Animal Diseases</i> , 1997, Ellis (ed.), Iowa State University Press, Ames, IA, #190  |
|   | AOO       | Theiss and Wise, "Localized Frameshift Mutation Generates Selective, High-Frequency Phase Variation of a Surface Lipoprotein Encoded by a <i>Mycoplasma</i> ABC Transporter Operon," <i>J. Bacteriol.</i> , 1997, 179:4013-4022   |
|   | APP       | Towbin et al., "Electrophoretic transfer of proteins from polyacrylamide gels to nitrocellulose sheets: Procedure and some applications," <i>Proc. Natl. Acad. Sci. USA</i> , 1979, 76:4350-4354  |
|   | AQQ       | Wilton et al., "Reiterated repeat region variability in the ciliary adhesin gene of <i>Mycoplasma hyopneumoniae</i> ," <i>Microbiology</i> , 1998, 144:1931-1943  |
|   | ARR       | Yogev et al., "Increased Structural and Combinatorial Diversity in an Extended Family of Genes Encoding Vlp Surface Proteins of <i>Mycoplasma hyorhinis</i> ," <i>J. Bacteriol.</i> , 1995, 177:5636-5643   |
|   | ASS       | Young et al., "Isolation and Characterization of High and Low Adherent Clones of <i>Mycoplasma hyopneumoniae</i> ," <i>IOM Letters. 10<sup>th</sup> International Congress of the International Organization for Mycoplasmaology</i> , 1994, Vol. 3, Bordeaux, France, pps. 684-685, #260 |
|   | ATT       | Zhang et al., "Identification and Characterization of a <i>Mycoplasma hyopneumoniae</i> Adhesin," <i>Infect. Immun.</i> , 1995, 63:1013-1019  |
|   | AUU       | Zhang and Wise, "Molecular Basis of Size and Antigenic Variation of a <i>Mycoplasma hominis</i> Adhesin Encoded by Divergent <i>vaa</i> Genes," <i>Infect. Immun.</i> , 1996, 64:2737-2744  |
|   | AVV       | Zhang and Wise, "Localized reversible frameshift mutation in an adhesin gene confers a phase-variable adherence phenotype in mycoplasma," <i>Mol. Microbiol.</i> , 1997, 25:859-869   |

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U.S. Department of Commerce  
Patent and Trademark Office

Attorney's Docket No.

08411-035001

Application No.

10/607,631

Information Disclosure Statement  
by Applicant

(Use several sheets if necessary)

(37 CFR §1.98(b))

Applicant

F. Chris Minion et al.

Filing Date

June 27, 2003

Group Art Unit

1645

## U.S. Patent Documents

| Examiner Initial | Desig. ID | Document Number | Publication Date | Patentee        | Class    | Subclass | Filing Date If Appropriate |
|------------------|-----------|-----------------|------------------|-----------------|----------|----------|----------------------------|
| <i>JS</i>        | AA        | 4,894,332       | 01/16/90         | Schaller et al. | <i>↑</i> | <i>↑</i> |                            |
| <i>JS</i>        | AB        | 5,459,048       | 10/17/95         | Kuner et al.    | <i>↑</i> | <i>↑</i> |                            |
| <i>JS</i>        | AC        | 2002/0068289    | 06/06/02         | Moore et al.    | <i>↓</i> | <i>↓</i> |                            |
|                  | AD        |                 |                  |                 |          |          |                            |
|                  | AE        |                 |                  |                 |          |          |                            |
|                  | AF        |                 |                  |                 |          |          |                            |
|                  | AG        |                 |                  |                 |          |          |                            |
|                  | AH        |                 |                  |                 |          |          |                            |
|                  | AI        |                 |                  |                 |          |          |                            |
|                  | AJ        |                 |                  |                 |          |          |                            |
|                  | AK        |                 |                  |                 |          |          |                            |

## Foreign Patent Documents or Published Foreign Patent Applications

| Examiner Initial | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation |    |
|------------------|-----------|-----------------|------------------|--------------------------|-------|----------|-------------|----|
|                  |           |                 |                  |                          |       |          | Yes         | No |
|                  | AL        | WO 00/31165     | 06/02/00         | PCT                      |       |          |             |    |
|                  | AM        |                 |                  |                          |       |          |             |    |
|                  | AN        |                 |                  |                          |       |          |             |    |
|                  | AO        |                 |                  |                          |       |          |             |    |
|                  | AP        |                 |                  |                          |       |          |             |    |

*duplicate of IDS # 26 filed July 2005*

## Other Documents (include Author, Title, Date, and Place of Publication)

| Examiner Initial | Desig. ID | Document |
|------------------|-----------|----------|
|                  | AQ        |          |
|                  | AR        |          |
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U.S. Department of Commerce  
Patent and Trademark OfficeAttorney's Docket No.  
08411-035001Application No.  
10/607,631**Information Disclosure Statement  
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F. Chris Minion et al.Filing Date  
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| U.S. Patent Documents |           |                 |                  |          |       |          |                            |
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|                       | AA        |                 |                  |          |       |          |                            |
|                       | AB        |                 |                  |          |       |          |                            |
|                       | AC        |                 |                  |          |       |          |                            |
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|                       | AJ        |                 |                  |          |       |          |                            |
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|   |           |                 |                  |                          |       |          | Yes         | No |
|   | AL        | WO 00/31115     | 06/02/00         | WIPO                     |       |          |             |    |
|   | AM        |                 |                  |                          |       |          |             |    |
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